Claims

1. A bone screw (1) having a longitudinal axis (2) comprising:

a threaded shaft (15), which comprises an external thread (3) with an external diameter D_A, a front threaded end (4) and a thread profile (11), wherein the thread profile (11) has a front threaded flank (7) which is directed towards the front threaded end (4), and a rear threaded flank (18);

a front end (4); and

a rear end (18), the rear end (18) able to accommodate a tool,

wherein the external thread (3) at the front end (4) of the thread comprises a flank piece (9), which is angled with respect to threaded flanks (7, 18), so that a tangential cutting edge (5) is formed thereby at the front end (4) of the thread.

2. A bone screw according to claim 1, wherein flank piece (9) encloses an angle α of between about 40° and about 110° with the longitudinal axis (2).

3. A bone screw according to claim 2, wherein the angle α is between about 85° and about 95°, and more preferably between about 88° and about 91°.

4. A bone screw according to claims 1 to 3, wherein the threaded profile (11) has a constant profile height H.

5. A bone screw according to claims 1 to 4, wherein the external thread (3) is configured as a multiple thread, preferably as a double thread.

6. A bone screw according to claims 1 to 5, wherein the external thread (3) has a thread pitch x of between about 1 mm and about 7 mm, and preferably of between about 1.5 mm and about 4.0 mm.

7. A bone screw according to claim 6, wherein the external thread has n threads (3) and a thread pitch $X = nx$.

8. A bone screw according to claims 1 to 7, wherein the external diameter D_A of the external thread (3) is between about 7 and about 14 mm and preferably between about 10 mm and about 14 mm.

9. A bone screw according to claims 1 to 8, wherein the height H of the thread profile is between about 0.5 mm and about 5.0 mm, and more preferably between about 2.5 mm and about 4.5 mm.

10. A bone screw according to claims 1 to 9, wherein the thread profile (11) has a flank angle β between about 5° and about 160°, and more preferably between about 60° and about 90°.

11. A bone screw according to claims 1 to 10, wherein the thread profile (11) has a variable flank angle β in a cross-sectional area parallel to the longitudinal axis of the bone screw (1).

12. A device with a bone screw according to claims 1 to 11, comprising a tubular bone blade (21) with a central borehole which is coaxial with the longitudinal axis (2) of the bone screw (1), wherein the front end (8) of the bone screw (1) protrudes coaxially beyond the tubular bone blade (21) and the bone screw (1) being rotatable about the longitudinal axis in the central borehole.